

ALTERNATING APERTURE PHASE SHIFTING PHOTOMASK  
WITH IMPROVED INTENSITY BALANCING

ABSTRACT OF THE DISCLOSURE

5 The present disclosure includes describes a method  
for fabricating an AAPS photomask with improved intensity  
balance. The method includes forming an alternating  
aperture phase shifting photomask pattern on a substrate,  
including forming trenches within the substrate. The  
method further includes forming a layer of antireflective  
material within the bottom of at least one trench. In  
one embodiment the layer antireflective material is  
10 Magnesium Fluoride (MgF<sub>2</sub>) formed using a vacuum  
evaporation technique. The layer of antireflective  
material formed at the bottom of the trench areas  
increases the transmission of light through the trench  
areas by improving light coupling into the trench.

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